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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/703,977	11/07/2003	Carlos R. Corleto	COS-928	2841
7590 David J. Alexander Fina Technology, Inc. P.O. Box 674412 Houston, TX 77267-4412		05/16/2007	EXAMINER AFZALI, SARANG	
			ART UNIT 3726	PAPER NUMBER
			MAIL DATE 05/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/703,977	CORLETO ET AL.	
	Examiner	Art Unit	
	Sarang Afzali	3726	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 2/21/2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 52 and 53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The applicant's amendment filed on 2/21/2007 has been fully considered and made of record. Applicant has presented original claims 1-51 in response to the Notice of Non-Responsive Amendment mailed on 1/17/2007 as the only claims directed to the method of making the devolatilizer nozzle.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 26-28, 50, and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 64-47878 (hereinafter '878).

'878 teaches a method comprising: by perforating 2 a steel plate 1, forming a devolatilizer nozzle from the steel plate (figure 1), and heat treating the devolatilizer nozzle (English abstract, line 3). In as much structure claimed, the nozzle of '878 is considered a "devolatilizer nozzle". Heat treating increases the yield strength and tensile strength of steel.

Regarding the limitations pertaining to the capacity of the nozzle, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed

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invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Furthermore, the limitations pertaining to the capacity of the nozzle does not further limit the method of forming the nozzle.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-15, 19-21, 23-25, 29-40, and 44-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over '878.

'878 teaches the invention cited above with the exception of specifically disclosing the claimed yield strength and tensile strength of the steel material used, the claimed sizes of holes, and the thickness of the plate.

At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because applicant has not disclosed that claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the yield and tensile strength, the claimed sizes of holes, and the thickness of the plate taught by '878 or the

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claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because either yield and tensile strengths, the claimed sizes of holes, and the thickness of the plate perform the same function of providing a high strength nozzle equally well.

Since applicant did not traverse the examiner's assertion of Official Notice that using the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate are well-known in the art, such assertion is taken to be admitted prior art. It would have been obvious to have provided the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate, in order to provide a nozzle having the desired strength requirements depending upon the application the nozzle is used for.

Furthermore, the particular steel used is considered an obvious matter of design choice depending upon the application that the nozzle is to be used for and since applicant did not traverse the examiner's assertion of Official Notice that using the claimed steel composition is well-known in the art, such assertion is taken to be admitted prior art. It would have been obvious to have provided the claimed steel composition, in order to provide a high strength steel material for the nozzle.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over '878 in view of Nakagawa et al. (US6007761).

'878 teaches the invention cited above with the exception of annealing the steel plate. Nakagawa et al. teach annealing a steel plate (col. 8, lines 13-17).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '878 with annealing the steel plate, in light of the teachings of Nakagawa et al., in order to strengthen the steel material prior to further processing operations.

7. Claims 1-21 and 23-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art [hereinafter APA] in view of '878.

APA teaches that devolatilizer nozzles are known to have perforations or holes and that small nozzle diameter holes are desirable because they increase devolatilization. In addition it is known to use steel for these nozzles (see paragraphs [0005]-[0008] of applicants specification).

However, APA does not specifically disclose heat treating the nozzle.

'878 teaches a method comprising: perforating 2 a steel plate 1, forming a devolatilizer nozzle from the steel plate (figure 1), and heat treating the devolatilizer nozzle (English abstract, line 3). In as much structure claimed, the nozzle of '878 is considered a "devolatilizer nozzle". Heat treating increases the yield strength and tensile strength of steel.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of APA with heat treating the nozzle, in light of the teachings of '878, in order to strengthen the material of the nozzle.

At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used the claimed yield and tensile

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strength, the claimed sizes of holes, and the thickness of the plate because applicant has not disclosed that claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the yield and tensile strength, the claimed sizes of holes, and the thickness of the plate taught by '878 or the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate because either yield and tensile strengths, the claimed sizes of holes, and the thickness of the plate perform the same function of providing a high strength nozzle equally well.

Since applicant did not traverse the examiner's assertion of Official Notice that using the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate are well-known in the art, such assertion is taken to be admitted prior art. It would have been obvious to have provided the claimed yield and tensile strength, the claimed sizes of holes, and the thickness of the plate, in order to provide a nozzle having the desired strength requirements depending upon the application the nozzle is used for.

Furthermore, the particular steel used is considered an obvious matter of design choice depending upon the application that the nozzle is to be used for and since applicant did not traverse the examiner's assertion of Official Notice that using the claimed steel composition is well-known in the art, such assertion is taken to be

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admitted prior art. It would have been obvious to have provided the claimed steel composition, in order to provide a high strength steel material for the nozzle.

The claimed number of perforations is considered an obvious matter of design choice to a person of ordinary skill in the art, at the time of the invention, depending upon the desired devolatilization required.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of '878 as applied to claim 1 above, and further in view of Nakagawa et al.

APA/'878 teaches the invention cited above with the exception of annealing the steel plate.

Nakagawa et al. teach annealing a steel plate (col. 8, lines 13-17).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of APA/'878 with annealing the steel plate, in light of the teachings of Nakagawa et al., in order to strengthen the steel material prior to further processing operations

### ***Response to Arguments***

9. Applicant's arguments filed 2/21/2007 have been fully considered but they are not persuasive.

Applicant's main arguments, under "Remarks", page 1, are that '878 does not teach, show or suggest forming devolatilizer nozzle, and that there is structural difference between the claimed limitation "capacity of the nozzle" and the prior art ('878)



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because "capacity suggests that something is flowing therethrough, herein, a volatile component". Furthermore, Applicant requests a complete translation of '878.

The Examiner respectfully disagrees with the above arguments. Note that '878 teaches a method of forming a devolatilizer nozzle from the steel plate (Fig. 1) and the method of making it is irrespective of what the capacity of the nozzle is and that there is no structural difference between the claimed invention and '878 in order to patentably distinguish the claimed invention from the prior art and that the structure of '878 is capable of performing the intended use and that the limitations pertaining to the capacity of the nozzle indeed does not further limit the method claim of forming the nozzle.

Furthermore, the Examiner will furnish the Applicant with a complete translation of the Japanese reference JP 64-47878 within few days of mailing this action. However, barring an explicit disclosure by the translated reference '878 that the nozzle **"is not a devolatilizer nozzle"**, the Examiner considers that '878 is teaching the devolatilizer nozzle.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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5/3/2007



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5/7/07